Collaboration with Customers in Network-Based Innovation Processes - Network and relations in the Fuzzy Front-End

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Abstract

There is a general tendency that product life cycles get shortened and there is an increased customer demand for individualized products. These trends put pressure on companies to continuously bring new products to the market (Cooper & Kleinschmidt 1987a)

Further it is a tendency that users of products are becoming more able to innovate by them selves rather than wait for the manufacturer to make the desired changes to products. This regards both fims and individual consumers (von Hippel 2005). Often these customers develop important product- and process innovations (Harhoff, Henkel, & von Hippel 2003).

A possible response to the above described challenges of customization and faster innovation processes could be a closer collaboration with customers through strong and early linkages (Rothwell 1994).

This article extends the different concepts of "user-innovation" originated by Eric von Hippel to a network innovation perspective and discusses the different concepts as a method when identifying industrial customers for network based innovation. This is done in order to provide insights in how the Fuzzy Front-End of network based innovation can become more efficient. ***KEY WORDS: User innovation, Customers; Innovation; Collaboration; Inter-firm; Network; Relation.***

Introduction

There is a general tendency that product life cycles get shortened and there is an increased customer demand for individualized products. These trends put pressure on companies to continuously bring new products to the market (Cooper & Kleinschmidt 1987b)

The increasing complexity and pace of the industrial technological change are pushing firms to create new vertical and horizontal alliances and to strive for greater flexibility and efficiency in responding to rapid market changes. When adapting to these new challenges some companies moves towards greater and more strategically directed integration and networking with external agencies such as customers in R&D partnerships (Baldwin, Hienerth, & von Hippel 2006;Håkansson 1987;Rothwell 1994).

Meanwhile it is a tendency that users of products are becoming more able to innovate by them selves rather than wait for the manufacturer to make the desired changes to products. This regards both firms and individual consumers (von Hippel 2005). Often these customers develop important product- and process innovations (Harhoff, Henkel, & von Hippel 2003).

Such innovative customers can not only provide the company with valuable knowledge about trends and needs, they can also reduce the risk of innovation in certain settings by providing some of the resources needed in the process. Choosing these customers for collaboration is, however, yet another task the company needs to master in order to be successful in the innovation process.

Often partners for network innovation is chosen do to prior relations and thereby trust. However as innovation projects become more complex the need for new partners is growing. Finding partners who might only participate in one project or one task then becomes a most important innovation competence.

Though many scholars have been doing research on different approaches to customer involvement in innovation processes there seems to be a need for elaborating further on how companies identify the right customers for network based innovation. This article extends the concepts of user-innovation originated from Eric von Hippel to a network innovation perspective and links the different approaches to user-innovation to the challenge of identifying the right customers for collaborative innovation in the very beginning of the innovation process. In doing so the article discusses how different approaches to user-innovation can be used to make the process of identifying customers for network innovation more efficient in the Fuzzy Front-End (FFE) of the innovation process.

Thus, in this article the different approaches to user involvement are not seen as alternatives but as complimentary strategies in finding the right partners for network based innovation, that in combination can make the FFE of the innovation process more efficient. The article should therefore both be of interest to academic researchers within the field and to practitioners who deals with inter-firm innovation on a daily basis.

As a point of departure the benefits and challenges of innovation in networks and R&D partnerships is discussed. Then the article then discusses the potential benefits and challenges in using customers as partners in network based innovation. Four approaches to customer involvement in network based innovation processes are presented:

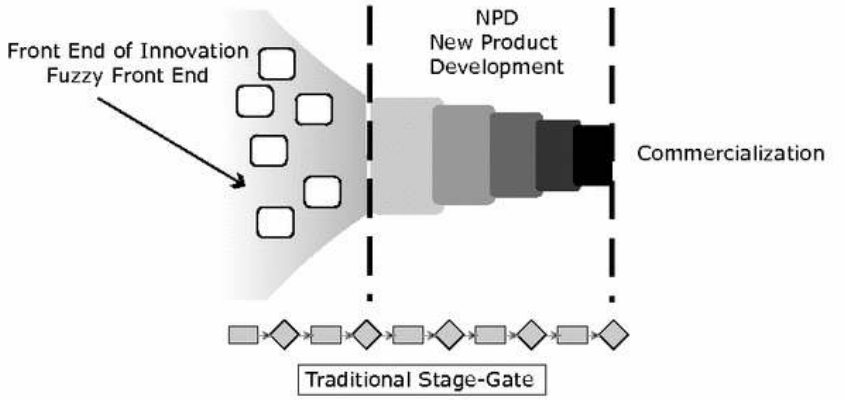
- Lead Users
- Communities
- Crowd Sourcing
- Innovation Tool Kits

Each method is briefly described and afterwards the approach is discussed in regard to the identification of customers for collaborative innovation.

Network Innovation and R&D partnerships

Formal interorganizational collaboration has proven to have a positive effect on innovation performance (Hagedoorn 2002). But prior to an actual formalization of the interorganizational network, meaning joint-ventures or other contractual agreements, is a process of in-formal collaboration also referred to as Fuzzy Front-End.

Figure 1 – What is The Fuzzy Front End?



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Through this process the partner which the company wants to collaborate with is identified. Trust among the partners is established and specifications and ideas on the goals of the collaborative project are discussed. This process seems essential for the success of the following formal collaboration process.

The first challenge of the manufacturing company in this respect is choosing the right partner for collaboration and getting chosen. On the one hand the manufacturing company must be aware of the task of the network in order to choose the right participants and on the other hand it must posses certain characteristics to be seen as attractive and thereby to be chosen by the customer (Wilkinson, Freytag, & Young 2005). Focus in this paper is on the former.

Using March (1991) dichotomy of exploration and exploitation, several scholars distinguishes between explorative and exploitative collaborations. Whereas the intent behind entering an exploration alliance involves a desire to discover new opportunities,

an exploitation alliance involves the joint maximization of complementary assets (Faems, Van Looy, & Debackere 2005).

Through the FFE phase of the innovation process the network would be of exploratory nature. There has not yet been agreed on a specific goal for the network and the work-processes to be. Here, the focus is on gathering, combining and generating knowledge in different configurations, from a variety of sources, and experimentation with thought experimental prototypes. In such networks for exploration, there is uncertainty concerning future dominant designs, in both technology and organization and therefore also uncertainty concerning the configuration of the future network for exploitation (Bart Nooteboom 2003). When a focal company initiates such a network for collaborative innovation it needs access to a variety of actors who might offer complementary competencies. But the company does not know clearly what elements of knowledge will turn out to be relevant when a dominant design develops. Also one does not know what actors will survive by that time.

Bringing different people to work together also have unanticipated collaboration effects. The recombining of knowledge leads to innovation (Brown & Duguid 2000) and thereby using the exploration phase to manage chance rather than manage the design of knowledge.

These uncertainties illuminate the complexity of identifying partners for collaborative innovation. Further they suggest that the process of partner identification is a somewhat resource demanding task. In the following section the above discussion will be specified further in regard to using customers as partners for innovation.

Customers as Partners in Network Innovation

In the late 1970s Eric Von Hippel was that first to focus attention on the role of the customer in the industrial innovation process. He presented a **C**ustomer-**A**ctive **P**aradigm (CAP), which he found more appropriate to the industrial innovation setting than the

Manufacturer-**A**ctive **P**aradigm (MAP). Whereas MAP leaves the customer in the role of the respondent answering the questions of the manufacturer, CAP activates the customer. Gardiner & Rothwell (1985) also argued that the customer should play an active role and as such, be viewed as a partner in the innovation process. The CAP paradigm led to the development of the Lead User concept (Urban & von Hippel 1988;von Hippel 1986) which will be addressed later in this paper.

Integrating the active customer in the innovation process can create collaboration between the manufacturer and the customer which supersedes the traditional value chain. The result is a system of co-production, with a manufacturer-customer interaction and adaptation for the purpose of achieving added value and establishing a win-win situation (Milgrom & Roberts 1990).

Idea generation usually marks the beginning of the innovation process. And from this just beginning customers has proven to have a positive effect on the outcome (Murphy & Kumar 1997). Ideas for new products may come from a variety of sources or initiatives but direct customer contact has shown to be the most important activity (Murphy & Kumar 1997). This activity leads to both specific requests as well as revealing the general needs of the marketplace. Customers appear to be in the best position to assess the cutting edge needs of the industry.

However customers have differs in characteristics and so does the innovation project. Thus, one must be aware that not all customers will have an equally positive influence on the innovation process. As *customers* are a subset of the total set of innovation partners the challenges of identification are similar. Faems, Van Looy, & Debackere (2005) states that the company should choose customers who are technologically strong and demand innovation within the field of the manufacturing company's innovation strategy. If such customers become actively involved in the innovation process they can assist the company in increasing development speed and reducing development costs (Gardiner & Rothwell 1985). E.g. when the user is also the inventor of the new product and has

created a rough prototype for own use before transferring the design to the manufacturer. In this case, development times are shortened and development costs are effectively subsidized through the user's initial and subsequent design and technological contributions (Shaw 1985;Urban & von Hippel 1988).

Customers providing the manufacturer with less developed prototypes also offer valuable embedded data on needs and solutions. The producer then has a number of options to choose from; utilise the solution content only; the need content only; a combination of the solution and need content; or decide that there is nothing novel or of use to exploit from the prototype. Through this kind of customer involvement the manufacturers can, complement its own R&D efforts by plugging-in to the technical strengths of their customers (Gardiner & Rothwell 1985).

Based upon the discussion above on network based innovation and customers as innovation partners, the challenges of identifying industrial customers for collaborative innovation in the FFE phase of the innovation process can be summed op in four questions:

Table 1 – Four Questions When Identifying Customers

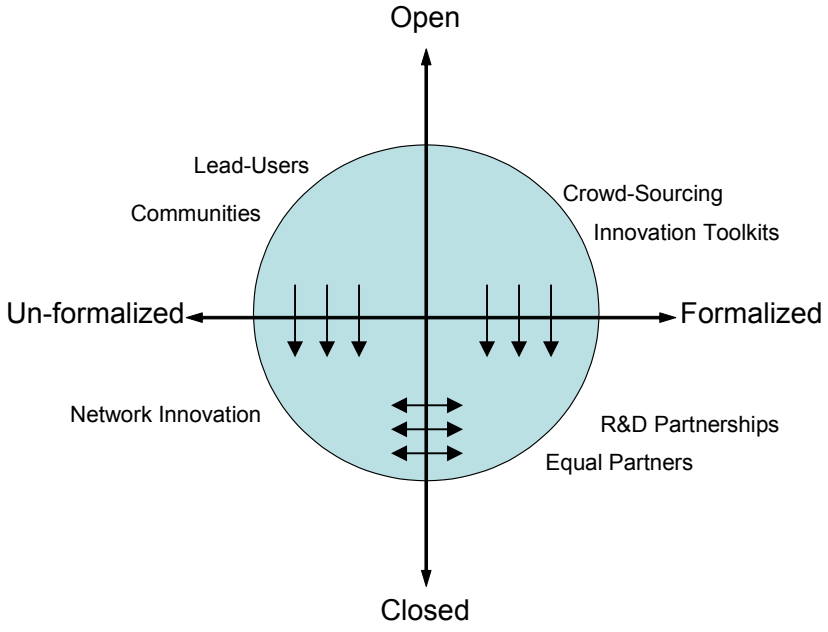
- What competencies will be relevant? (Hagedoorn 2002)
- Who has what competencies, including knowledge of sources of competencies?
- Who will survive to offer direct or in-direct access to competencies?
- Who has obtained technical and or market knowledge through (pre)-prototyping?

As identifying innovation partners in general is a difficult and resource demanding task finding such customers who can provide valuable input to the innovation process seems equally complicated. However customers possess certain characteristics which offer alternate answers to these challenges. In the following section four approaches to customer involvement will be described in a network / relationship perspective. Afterwards these approaches will be analyzed in regard to the task of identifying customers for network based innovation.

Approaches to customer collaboration

Figure 2 illustrates four different approaches to how customers can become actively involved in the network innovation process. This is done in respect to their characteristics as open/closed networks and un-formalized/formalized relations in regard to the manufacturing company. The 1st axis spans from an open undefined network on top to a closed defined network in the bottom of the circle. The 2nd axis shows the degree of formalization in the relationship - formalization as the degree of contractual bonds between actors.

Figure 2 - Approaches to Network Based Collaboration with Industrial Customers



In the traditional view on R&D partnerships the company has a number of partners which engage in a formalized relationship for further development of a certain project. As discussed earlier finding these partners is a somewhat complex and resource demanding task. Also the un-formalized approach to network innovation to some extent demands the identification of partners. Figure 2 suggests complimenting the search effort for innovation partners by using the methods of user-innovation. The methods in this respect

can be used to answer the questions from Table 1 and thereby find partners with the right knowledge and competences and access to knowledge and competences (network).

In the upper left quadrant are the ideas and concepts based on the ideas of Eric Von Hippel. The Lead User and Community approach relies on an un-formalized relation where the manufacturing company seeks out information in an open population. These methods are highly based on the concept of free-revealing where the user innovators of products freely reveal their innovations to the manufacturing company (Harhoff, Henkel, & von Hippel 2003). The relationship is un-formalized and therefore there is no direct power between the customer and the company.

In the upper right quadrant are the concepts of Crowd-Sourcing and Innovation Toolkits both to some extent grounded in Eric Von Hippel´s ideas. Crowd sourcing is characterized by a formalized relation to the manufacturing company where the customer engages in a contractual transaction providing a solution for a specified problem and getting monetary payment. The Innovation Toolkit approach differs from Crowd-Sourcing in the transaction. Whereas customers who engages in a Crowd Sourcing collaboration gets monetary rewards for their efforts the Tool Kit method relies on the customer to benefit directly from the individualized solution they make for themselves. *For further elaboration on figure 2 see Appendix 1*

To exemplify figure 2 it can be seen as a movement from the upper half towards the lower half. Typically there will be a movement from the open and un-defined network in the upper half, towards an identification and selection process of partners into a closed and defined network in the lower half. Such a network can either be un-formalized as in network innovation or more formalized as in R&D partnerships. Often the initial FFE phase would be characterized as un-formalized network innovation as contractual agreements, besides simple non-disclosures, seems difficult to specify as the concept has not yet been described.

According to figure 2 the four concepts will be described in a relationship and network perspective. Each one of the approaches has different benefits and challenges relating to the identification of customers for network innovation. These will be discussed further in the following analysis.

The Lead User concept

Von Hippel (1986) suggests adopting concepts and prototypes already developed by users – Lead Users. The concept is an open network approach where the manufacturing company seeks out user innovators with certain characteristics. Eric von Hippel defines the Lead Users as:

1. Lead users face needs that will be general in a marketplace – but face them months or years before the bulk of that marketplace encounters them, and

2. Lead users are positioned to benefit significantly by obtaining a solution to those needs.

Thereby Lead Users are users of a product that currently experience needs still unknown to the public and who also benefit greatly if they obtain a solution to these needs. Autonomously these users often develop important product- and process innovations (Harhoff, Henkel, & von Hippel 2003). Finding such lead users will provide the company with insight in future market trends and knowledge of developed prototypes. However the Lead User concept is highly reliant on both the company ability to identify the true lead users, and the lead users´ willingness to freely reveal their innovations.

Finding such Lead Users is a resource demanding task in it self (Hippel, Thomke, & Sonnack 1999;Luthje & Herstatt 2004;Urban & von Hippel 1988;von Hippel 1986). However succeeding in finding such Lead Users will give the company knowledge about future market trends. Also the Lead User will properly have considerable insights in the market need and have obtained significant technical knowledge of possible solutions

through the development of a prototype. The challenge of the method is finding true Lead User and not be mislead by e.g. early adopters in a niche market.

Communities

The community approach constitutes a open and un-formalized network approach to the identification of customers as network partners for innovation. The finding of (Franke & Shah 2003) suggest that monitoring some innovative user-communities may be an efficient method for identifying commercially appealing innovations already developed. They point out two critical steps in this process: 1. selecting promising communities; and 2. gathering information from community members.

The findings of (Franke & Shah 2003) indicate that the concept of community innovation is closely linked to the Lead User approach and to find the users who have innovated. They show that central members of the community are likely to both innovate and to have an exceptionally good knowledge of user-innovations developed by other community members; thus it is not necessary to incur the high cost of contacting every member of the community to identify potential innovations. It is important to remember that the free-revealing and sharing of innovations is important in these communities. While an innovator may not mind a manufacturer producing an innovation for individuals who are unable or unwilling to build it themselves, they might object to aggressive patenting, excessive price mark-ups above costs or not giving the innovator credit for developing the innovation if the identity of the innovator is known.

Using this approach to identify customers has the following advantages; the company can take advantage of the customers´ network to locate knowledge and competences. Moreover searching communities within the branch reveals trends in the market and thereby indicates the direction of the innovation project.

The disadvantages are that the concept is highly reliant on selecting the right communities to search and the customer willingness to freely reveal their knowledge.

Crowd-Sourcing – (Interactive Value Creation)

Crowdsourcing is a subset of what Eric von Hippel calls "user-centered innovation," in which manufacturers rely on customers not to expose their needs, but to make the products or enhancements to meet them. But unlike the bottom-up, ad-hoc communities that develop in e.g. open-source software, crowdsourced work is managed and owned by a single company that manages the results and the. Thereby the network is still undefined and thus open but the collaborative effort is formalized by contractual agreements.

According to (Howe 2006) Crowd-Sourcing (Interactive Value Creation) represents the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call. This can take the form of peer-production (when the job is performed collaboratively), but is also often undertaken by sole individuals (Howe 2006).

Using the concept of Crowd-sourcing allows the focal company to in-source competences in the innovation network on an ad-hoc basis. Although the network has been configured and the network is closed and formalized it can easily be the supplied with additional competences. The company makes an open call for a solution to a specified problem e.g idea generation, design, improvements, manufacturing etc. and the customers bid in with possible solutions.

Through the use of this method the company avoids using resources to find the customer with the right competences and knowledge (solution) but lets the customer find the company. Also the formalized relationship based on a predefined monetary reward addresses the otherwise possible customer unwillingness to reveal the solution. However the method is highly reliant on the customers seeking such open calls themselves or the company advertising their call.

Innovation Toolkits

In the traditional new product development process, manufacturers first explore user needs and then develop responsive products. However developing an accurate

understanding of a user need is not simple or fast or cheap (Franke & von Hippel 2003;Piller & Walcher 2006;von Hippel & Katz 2002). Toolkits for user innovation is an alternative approach in which manufacturers actually abandon the attempt to understand user needs in detail in favour of transferring needrelated aspects of product and service development to users.

The toolkits approach to innovation involves transferring need-related product development tasks from manufacturers to users, and equipping the users with tools to carry out those tasks by themselves. The tool kit method is a formalized interaction between customer and manufacturer. The manufacturing company can use this method in the identification of innovation demanding customers if the method has been used on prior product. Monitoring the customers engage in experimentation with product modifications would reveal which customers are innovation demanding and who have 1. hand knowledge of prior prototypes. Setting up the tool kit is a resource demanding task however these has very well been set up for other purposes and thus, the direct costs of using the tool kit method would be rather low.

Findings

Table 2 sums up the discussion network based innovation, customers as innovation partners and the descriptions and analysis of the four approaches to user-innovation as methods in identifying the right customers.

Table 2 – Characteristics When Identifying Customers

	Lead User	**Communities**	**Tool Kits**	**Crowd sourcing**
Resources needed in method	Many	Moderate	None / Many (Costly to set up)	Little (describing problem/concept)
1. hand knowledge of prototype	High (Adaptation needed)	Moderate (Rough prototyping or functioning prototype)	High (Prior - Functioning product – in production)	High (Product/solution)
2. hand knowledge of prototype existence	Moderate	High (Strong network)	None	None
Market trend knowledge	High	Indicates trends	Not available	None / moderate
Relationship	Un-formalized	Un-formalized	Formalized	Formalized
Network type	Open - undefined	Open - undefined	Open - undefined	Open - undefined

The community approach seems to provide a useful method for mapping the competences of the customers. The community network is used to locate the right competences by contacting only a few central community members. This allows a moderate need of resources. The Crowd Sourcing method seems most appropriate when there is a need for competences to solve a specific isolated task and these competences are not present among the present partners in the innovation network. In this situation the needed competence or knowledge can be in-sourced on an ad-hoc basis without the engaging in search activities. The use of resources is limited to the specification of the task and the predefined monetary reward for the solution. The Lead User method is a somewhat resource demanding approach for spotting future trends and getting insight in customer developed prototypes. However finding true Lead Users can provide valuable insights in both prototypes and market trends.

Conclusion

This article has discussed some of the implications and possible answers of identifying the right customers for network based innovation in the Fuzzy Front-End (FFE) of the innovation process. The main task of this phase is to identify the right customers for collaboration. This task is complex as the concept has not yet been fully developed and the project is still in the exploration phase meaning uncertainties of technology, market and functionalities. Four questions should be answered when identifying industrial customers for network based innovation:

- What competencies will be relevant? (Hagedoorn 2002)
- Who has what competencies, including knowledge of sources of competencies?
- Who will survive to offer direct or in-direct access to competencies?
- Who has obtained technical and or market knowledge through (pre)-prototyping?

Four methods in this regard have been described accordingly. Using the approaches of user-innovation can be useful methods to answer the questions and identify customers who can provide valuable input in the innovation process. Each method provides different benefits and challenges in regard to the identification of customers for network based innovation.

References

Baldwin, C., Hienerth, C., & von Hippel, E. 2006, "How user innovations become commercial products: A theoretical investigation and case study", *Research Policy*, vol. 35, no. 9, pp. 1291-1313.

Bart Nooteboom 2003, *Inter-firm collaboration, networks and strategy;An integrated approach* The Hague.

Brown, J. S. & Duguid, P. 2000, *The Social Life of Information* Havard Business School Press.

Cooper, R. G. & Kleinschmidt, E. J. 1987b, "Success factors in product innovation", *Industrial Marketing Management*, vol. 16, no. 3, pp. 215-223.

Cooper, R. G. & Kleinschmidt, E. J. 1987a, "Success factors in product innovation", *Industrial Marketing Management*, vol. 16, no. 3, pp. 215-223.

Faems, D., Van Looy, B., & Debackere, K. 2005, "Interorganizational Collaboration and Innovation: Toward a Portfolio Approach*", *Journal of Product Innovation Management*, vol. 22, no. 3, pp. 238-250.

Franke, N. & Shah, S. 2003, "How communities support innovative activities: An exploration of assistance and sharing among end-users", *Research Policy*, vol. 32, no. 1, pp. 157-178.

Franke, N. & von Hippel, E. 2003, "Satisfying heterogeneous user needs via innovation toolkits: the case of Apache security software", *Research Policy*, vol. 32, no. 7, pp. 1199-1215.

Gardiner, P. & Rothwell, R. 1985, "Tough customers: good designs", *Design Studies*, vol. 6, no. 1, pp. 7-17.

Hagedoorn, J. 2002, "Inter-firm R&D partnerships: an overview of major trends and patterns since 1960", *Research Policy*, vol. 31, no. 4, pp. 477-492.

Håkansson, H. *Industrial Technological Development: A Network Approach*. 1-1-1987. London, UK, Croom Helm.
Ref Type: Generic

Harhoff, D., Henkel, J., & von Hippel, E. 2003, "Profiting from voluntary information spillovers: how users benefit by freely revealing their innovations", *Research Policy*, vol. 32, no. 10, pp. 1753-1769.

Hippel, E. v., Thomke, S., & Sonnack, M. 1999, "Creating Breakthroughs at 3M", *Harvard Business Review*, vol. 77, no. 5, pp. 47-57.

Howe, J. 2006, "The rise of crowdsourcing", *Wired*, vol. 14, no. 6, pp. 176-183.

Luthje, C. & Herstatt, C. 2004, "The Lead User method: an outline of empirical findings and issues for future research", *R & D Management*, vol. 34, no. 5, pp. 553-568.

March, J. G. 1991, "Exploration and Exploitation in Organizational Learning", *Organization Science*, vol. 2, no. 1, pp. 71-87.

Milgrom, P. & Roberts, J. 1990, "The Economics of Modern Manufacturing: Technology, Strategy, and Organization", *The American Economic Review*, vol. 80, no. 3, pp. 511-528.

Murphy, S. A. & Kumar, V. 1997, "The front end of new product development: a Canadian survey", *R&D Management*, vol. 27, no. 1, pp. 5-15.

Piller, F. T. & Walcher, D. 2006, "Toolkits for idea competitions: a novel method to integrate users in new product development", *R & D Management*, vol. 36, no. 3, pp. 307-318.

Rothwell, R. 1994, "Towards the fifth-generation innovation process", *International Marketing Review*, vol. 11, no. 1, p. 7.

Shaw, B. 1985, "The role of the interaction between the user and the manufacturer in medical equipment innovation", *R&D Management*, vol. 15, no. 4, pp. 283-292.

Urban, G. L. & von Hippel, E. 1988, "Lead User Analyses for the Development of New Industrial-Products", *Management Science*, vol. 34, no. 5, pp. 569-582.

von Hippel, E. 1986, "LEAD USERS: A SOURCE OF NOVEL PRODUCT CONCEPTS", *Management Science*, vol. 32, no. 7, pp. 791-805.

von Hippel, E. 2005, *Democratizing Innovation,* . MA: MIT Press (April), Cambridge.

von Hippel, E. & Katz, R. 2002, "Shifting innovation to users via toolkits", *Management Science*, vol. 48, no. 7, pp. 821-833.

Wilkinson, I., Freytag, P. V., & Young, L. 2005, "Business Mating: Who Chooses Whom and Gets Chosen?", *Industrial Marketing Management*, vol. vol. 34, pp. 669-680.

Appendix I

Figure 2: A circle of network based innovation - A thought experiment;

Take that the innovation process has not even begun. The focal company wants to do something new – to make an innovation. This time they want to do something extraordinary. The innovation should provide them with a competitive advantage – at least for some time. The company sets off in the upper left quadrant. Bear in mind that they still have no idea in which direction they want to innovate or with whom. They narrow the scope just a bit by starting a search of innovative communities within the boundaries of their innovation strategy. After some efforts the search begins to reveal market trends and needs that are currently unfulfilled. They get ideas for new concepts and technical insights by seeing pictures and drawings of their past product series which has been modified into something that looks like rough prototypes. The innovation concept is still somewhat fuzzy though. The hunt then goes in for a true Lead User. They find her through an efficient search provided by central community actors who uses their network. She has a full functioning prototype that fulfils the need indicated by the community. The company acts quickly and invites her along with a couple of community members with certain competences to become part of the un-formalized innovation network. The innovation concept is no longer as Fuzzy. Seeing the different prototypes and talking to community members and the lead user has focused the project. The company has a number of regular partners they usually rely on in innovation projects such as this one. The relevant ones are invited and together with the new found partners they move into the formalized process of R&D partnerships. The Fuzzy Front-End is over and the New Product Development Process begins. A few months into the development they discover a major problem that immediately stops all progress in the project. None of the partners in the network either have the competence or knows where to find it. To start a new search of communities and competences within communities at this point, will by way to time consuming. Instead they quickly define the problem and set a price on the head of the solution – WANTED! By posting the problem in multiple communities the word spread through several levels and areas of expertise. Within a week two hands full of solutions have been submitted. One of them has sufficient quality to be chosen for the

project. The development continues and soon there work is done. The product hits the street and becomes a great success. The market really needed this product. However, after a while the customers begin to demand modifications in the product functionality. As a result sales drop and something need doing. The R&D partners in the innovation network provide the customers with an innovation tool kit. The tool kit allows the customers to make the desired changes and to experiment with different solutions with certain restrictions. Even though the customers are allowed to experiment they the restrictions sees to that they are doing so within the boundaries of the production facility and platform of the R&D partners. Sales rises as the customers needs are fulfilled. The partnership takes advantage of the ongoing customer innovation based on the tool kits. They monitor the customer innovations and get inspiration to a completely new generation of their common product. They are not sure though, whether the trend they are seeing is correct and whether they have the competences to develop the new product. What should they do?